

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Best Available Copy

| | | |
|--|---|--|
| Applicant's or agent's file reference 56289 - 5001WO | FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. | |
| International application No. PCT/US 03/09226 | International filing date (day/month/year) 26/03/2003 | (Earliest) Priority Date (day/month/year) 28/03/2002 |
| Applicant EXPONENTIAL BIOTHERAPIES, INC. | | |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 06 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

OXYGENATING AGENTS FOR ENHANCING HOST RESPONSES TO MICROBIAL INFECTIONS

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K45/00 A61K31/02 A61K33/00 A61P31/00 A61P31/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, EMBASE, BIOSIS, CHEM ABS Data, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | DE 34 38 966 A (OXO CHEMIE GMBH) 24 April 1986 (1986-04-24) page 4, line 16 - line 32 page 6, line 10 - line 16 | 1-5, 11-58 |
| X | WO 92/02242 A (UNIV ROCKEFELLER) 20 February 1992 (1992-02-20) page 6, line 10 - line 13; claim 1 | 1-5, 11-58 |
| X | D HOBSON ET AL: "The anti-bacterial activity of hemoglobin" THE JOURNAL OF EXPERIMENTAL MEDICINE, vol. 107, no. 2, 1 February 1958 (1958-02-01), pages 167-183, XP000983923 summary table IX | 1-5, 11-58 |

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

21 October 2003

Date of mailing of the international search report

19.02.2004

Name and mailing address of the ISA

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Pilling, S

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | D C WOOD ET AL: "Hemoglobin and related compounds as antibacterial agents" LABORAT. INVEST., vol. 7, no. 1, January 1958 (1958-01), - February 1958 (1958-02) pages 1-8, XP000984630 summary ----- | 1-5, 11-58 |
| X | DE 25 23 052 A (DOCKNER TONI DR) 2 December 1976 (1976-12-02) claim 1 ----- | 1-5, 11-58 |
| X | PARFITT K (ED): "Martindale; The complete drug reference (32nd Edition)" PHARMACEUTICAL PRESS , TAUNTON, MASSACHUSETTS, US , XP002257542 page 1116 - page 1117 page 1123 see "hydrogen peroxide" and "potassium permanganate" ----- | 1,11-58 |

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
2 to 5 and claims 1, 11 to 58 in part

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 2 to 5 and Claims 1, 11 to 58 in part
methods of treating a microbial infection by administering a
a HAEM based product

2. claims: 6, 7 and Claims 1, 11 to 58 in part
methods of treating a microbial infection by administering a
PERFLUOROCARBON

3. claims: 8 and Claims 1, 11 to 58 in part
methods of treating a microbial infection by administering
AQUEOUS OXYGEN

4. claims: 1, 10 to 58 in part
methods of treating a microbial infection by administering
HYDROGEN PEROXIDE

5. claims: 1, 10 to 58 in part
methods of treating a microbial infection by administering
TETRACHLORODECAOXIDE

6. claims: 1, 10 to 58 in part
methods of treating a microbial infection by administering
OZONE

7. claims: 1, 10 to 58 in part
methods of treating a microbial infection by administering
POTASSIUM PERMANGANATE

| Patent document cited in search report | | Publication date | | Patent family member(s) | | Publication date |
|---|---|---------------------|----|----------------------------|--|---------------------|
| DE 3438966 | A | 24-04-1986 | DE | 3438966 A1 | | 24-04-1986 |
| WO 9202242 | A | 20-02-1992 | AU | 645131 B2 | | 06-01-1994 |
| | | | AU | 8410491 A | | 02-03-1992 |
| | | | CA | 2088593 A1 | | 01-02-1992 |
| | | | EP | 0543902 A1 | | 02-06-1993 |
| | | | JP | 5504774 T | | 22-07-1993 |
| | | | WO | 9202242 A1 | | 20-02-1992 |
| DE 2523052 | A | 02-12-1976 | DE | 2523052 A1 | | 02-12-1976 |